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THE PLANT DISEASE REPORTER

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FRUIT DISEASES

SILVER LEAF OF PEACH

Silver leaf of the peach (associated with Stereum purpureum) has been noticed for several years in Virginia. However, it seems to have caused no damage. It is most prevalent in the Hale variety but has been noticed in other varieties. (R. H. Hurt, Oct. 10)

FLORIDA STRAWBERRY DISEASES - 1929

The following notes prepared by A. N. Brooks are from the strawberry section of the Florida annual report on plant diseases.

Anthracnose (Colletotrichum sp.) More prevalent than usual, of moderate importance, and occurring locally about Plant City but spreading in certain areas. Spread seems to be more rapid during rainy seasons and on moist land. Bordeaux mixture 4-4-50 has not proved satisfactory due to abundant rainfall and rapidly growing plants. In one field this disease destroyed the entire plant crop. The source of this disease has not yet been ascertained

Crimps (nematode, probably Aphelenchus fragariae). Much more than last year or the average year, and rated as very important. Scattered in distribution at present, but tending to become general. During the rainy season from July to September, the nemas were rapidly spread throughout infested fields. Crimps interferes with the making of runner plants. Newly infested plants not showing symptoms are used as healthy plants thus bringing the disease to the fall set fields. Nema-free plants on nema-free soil is the only satisfactory means of control. Sources of disease are Arkansas, Tennessee, and North Carolina

Root knot (Cacconema radicicola). Of moderate importance. More especially noticeable on the drier, sandier soils and damage due to it is more marked during the dry weather of late fall and early spring.

Root rot (cause unknown but associated with various fungi). Slightly important. From preliminary studies it is evident that there is usually some other factor such as root knot, unfavorable soil conditions, etc. which predispose the roots to fungus attack.

Leaf spots. Have been found to be of minor importance in Florida upon the Missionary variety, which is the one grown commercially. In 1929 all of them were present in about the usual amounts. Mycosphaerella fragariae: Plants secured from Arkansas during February showed more spotting than those from Maryland. Often these plants were side by side in the same field. Noticeable chiefly in the spring. Diplocarpon earliana: Appears from spring to fall. Bordeaux mixture 4-4-50 applied after setting of the plants in fall is recommended. Not important during the fruiting period, December to April. Dendrophoma obscurans: Only one field in which blight was doing much damage was noted during the season.

Fruit rots (various fungi). No observations were made upon the various rots. Weather during most of the shipping season was cool and dry enough to keep rots at a minimum.

A survey of many strawberry fields from which several hundred samples of soil were taken shows that for the best strawberry fields in the Plant City area the pH is between 5.3 and 5.7. In two fields where some of the plants were chlorotic the soil tested pH 6.9 to 7.2.

YELLOW RUST ON RED RASPBERRY

On October 23, H. W. Anderson of Illinois reported: "We have found this disease (Kuehneola uredinis (Lk.) Arth. = K. albida (Kuhn) Mag.) occurring very abundantly on a 10-acre field of Latham raspberries on plants secured from ---- Minnesota. Nearly every plant has some of the rust while wild blackberries and raspberries in the woods nearby are free."

The Plant Disease Survey has records of the occurrence of this rust on raspberry from six states - New York, Pennsylvania, Virginia, West Virginia, Michigan, and ?New Mexico. In New York, Pennsylvania and Virginia it was specified as occurring on the red, and in Michigan it was mentioned on the black.

In 1922, W. H. Rankin reported this rust on several varieties of red and purple raspberries at Geneva, New York, but with very little if any resulting damage. The older leaves were often killed. Uredinia were common on the leaf petioles. In 1927, F. D. Fromme reported receiving specimens of affected red raspberries from Danville, Virginia, September 8. The Pennsylvania report is found in North American Flora (7 (10): 730. 1925).

DISEASES OF VEGETABLES

CELERY DISEASES IN MASSACHUSETTS

A report from W. H. Davis (Oct. 24) states that Cercospora apii, Septoria apii, and Bacillus carotovorus were of very little consequence in Massachusetts this year. The important troubles were the non-parasitic "rust" and dwarfing due to dry weather, as indicated in the following remarks: "The 'rusting' of

leaf bases is quite prevalent necessitating trimming considerably in some localities. Most growers agree that celery is only 'half as long as it ought to be' on account of the dry weather."

LOSS CAUSED BY SEPTORIA LEAF SPOT IN THE TOMATO CANNING CROP OF INDIANA - 1928.

H. D. Brown

Tomato fields were inspected for Septoria prevalence in a number of localities in 1928, a total acreage of 1,991 being included.

Location, date, and acreage of survey			
Matthews	Grant Co.	July 9-13	627 acres
Kempton	Tifton "	June 22-23	134 "
Eaton	Delaware "	July 5-7	300 "
Vallonia	Jackson "	" 27	267 "
Greenfield	Hancock "	" 17-19	369 "
Gwynnville	Shelby "	" 20	93 "
Windfall	Tifton "	Aug. 8	98 "
Henryville	Clark "	" 1-2	48 "
Attica	Fountain "	" 10	51 "

The disease prevalence was recorded before August 10, so that the data obtained may be said to indicate the effect of very early prevalence of the disease on yield. Without doubt the disease became prevalent in nearly all of the fields later in the season, and consequently the figures presented below represent only the losses in the fields where the disease became serious very early. Therefore the figures are believed to be very conservative indeed.

From the canning factory records the yield from the fields inspected was obtained. The average yield from the 1,199 acres on which Septoria was classed as slight or none was 3.47 tons, from the 671 acres on which it was classed as bad was 2.79 tons, and from the 121 acres on which it was classed as very bad was 2.26 tons.

The actual yield on the 1,991 acres inspected may be computed as follows:

1,199 x 3.47 = 4,160 tons
671 x 2.79 = 1,872 "
121 x 2.26 = 271 "
6,303 " actual yield on 1,991 acres.
1,991 x 3.47 = 6,908 " theoretical yield on 1,991 acres.

6,908-6,303 = 605 tons actual loss on 1,991 acres due to early Septoria.
(605 ÷ 6,908) x 100 = 8.7 per cent loss due to early Septoria attack.
1928 yield in Indiana = 149,600 tons = 100-8.7 or 91.3 per cent of theoretical yield.
(149,600 ÷ 91.3) x 100 = 163,850 tons theoretical yield in absence of early Septoria.
163,850-149,600 = 14,250 tons loss due to early Septoria.
14,250 at $12 = $171,000 loss due to early Septoria.

Effect of Septoria on yield of tomatoes - 1928

Observed severity in July	No. of acres	Tons per acre
Slight or none	1,199	3.47
Bad	671	2.79
Very bad	121	2.26
Total and average	1,991	3.16

Editor's note: The above article applies to losses in 1928 rather than in 1929. Lack of space did not permit its use in last year's annual summary, but it is presented at this time because of the important information it contains and because of its value as an example of a survey to determine the loss from a particular disease.

BROOM RAPE ON TOMATOES

We have recently found a broom rape, Orobanche ramosa, on tomatoes in a field in Alameda County, California. The owner noted the parasite on the 1928 crop but did not report it until this season when it was noted that affected vines were considerably dwarfed and failed to set fruit. This is the first occurrence of broom rape on an agricultural crop in California as far as we know. (C. E. Scott, Nov. 9)

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DISEASES OF FORAGE AND GRASS CROPS

ALFALFA DISEASES IN CALIFORNIA

J. L. Weimer of the Office of Forage Crops sends the following information regarding the occurrence of alfalfa diseases in California this year (November 5). Of the diseases which he mentions Aplanobacter insidiosum, Colletotrichum trifolii, mosaic, and yellows have not been reported to the Survey from California previously.

The two outstanding troubles of alfalfa in California are the bacterial wilt (Aplanobacter insidiosum McC.) in the San Joaquin Valley and the disease of unknown origin upon which I am working, which is prevalent south of the Tehachapi mountains. The wilt is quite prevalent and is very destructive in parts of the San Joaquin Valley, from Bakersfield to Modesto, where it limits the life of the stand to from 3 to 4 years. The disease upon which I am working is similar in many respects to the wilt and kills out the stand in the same manner. I am now preparing a paper in which I am attempting to point out the differences between this trouble and wilt.

Pseudopeziza leaf spot (Pseudopeziza medicaginis) has been the most prevalent leaf spot seen in California. It was especially prevalent during the early part of the year and can hardly be found now. The damage for the year could not be placed at more than a trace.

The complete absence of Pyrenopeziza leaf spot in Southern California so far as my observations go has been a surprise to me. I have not seen a single spot of this disease since leaving Kansas.

Downy mildew (Peronospora trifoliorum) was quite prevalent during the early part of the year but was scarce by June and has not been seen for several months.

Bacterial blight (Bacterium medicaginis) was very prevalent during the late winter and spring months doing considerable damage to the first cutting. I do not believe an estimate of 5 per cent loss in some fields would be too high. Some blight was still evident as late as June but I think it was on stems of the first crop which had escaped the mowing machine.

Isolated stems affected with anthracnose (Colletotrichum trifolii) have been collected but it is not sufficiently abundant to cause any damage.

Rust (Uromyces medicaginis) has been very prevalent in Southern California this autumn, in fact I have never seen this disease so destructive elsewhere. In some fields, as high as 75 per cent of the leaves were attacked and stem lesions were also abundant. Many leaves were lost.

Girdle (leaf hopper) has been quite abundant here. Loss a trace.

Mosaic is quite general at times but not very destructive.

Yellows (due to Empoasca fabae) has been present but not destructive here at Riverside. This may be of interest in the light of the statement of Monteith and Hollowell (Jour. Agr. Research 38: 649): "No information is available as to how serious and widespread the leaf hopper injury to forage crops may be in the Western section of this country and in places outside the boundaries of the United States". The yellows developed on plants under a cage in which the leaf hoppers had been placed for another purpose. This confirmed my diagnosis of the trouble I had seen in the field where it was not very pronounced.

PORIA AMBIGUA IN LAWN

A specimen of Poria ambigua from a shaded and heavily watered lawn in Riverside, California, was received from W. T. Horne, The fungus was determined by J. A. Stevenson.

DISEASES OF SUGAR CROPS

RING SPOT OF SUGAR CANE - LEPTOSPHAERIA SACCHARI

Specimens of six different sugar cane varieties affected with ring spot collected at points in Florida by B. A. Bourne, pathologist for the Southern Sugar Company, Clewiston, Florida, have recently been received through Collaborator W. B. Tisdale. These are the first specimens from the United States to be placed on file in the mycological collections. In the Check List (Dept. Bul. 1366) and in Foreign Plant Diseases this disease is reported as occurring in Alabama and Florida. These occurrences are based on reports of collaborators in those states.

DISEASES OF TREES

CHESTNUT BLIGHT FOUND IN OREGON

Chestnut blight Endothia parasitica has been found at Gunter, Oregon on a few trees and has been eradicated. It was probably introduced from some of the eastern states. (G. F. Gravatt, November 5, 1929).

SOME SPECIMENS RECEIVED

Phomopsis sp. on seedlings of Castanea sp. (Chinese chestnut), Round Hill, Pennsylvania. Received October 29 from B. Y. Morrison. Determined by C. L. Shear.

Botryosphaeria ribis Gross & Dugg., on Salix sp. (pussy willow) Smyrna, Georgia, October 24. Received from O. C. Boyd. Determined by G. Hamilton Martin, First report to the Plant Disease Survey from Ohio state.

Coniothyrium insitivum Sacc. on pods of Gleditsia triacanthos, Washington, D. C., May. Collected by Vera K. Charles and G. Hamilton Martin. Determined by the latter. First report to the Plant Disease Survey for the United States.

Cladosporium gleditschiae Cke. on pods of Gleditsia triacanthos Washington, D. C., May. Collected and determined by Vera K. Charles and G. Hamilton Martin.